THE NEW PUBLIC HEALTH

The Conclusion of the Whole Matter

By

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LONDON, ONTARIO, CANADA

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THE NEW PUBLIC HEALTH

ELEVENTH AND CONCLUDING PAPER

THE CONCLUSION OF THE WHOLE MATTER

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If previous articles have succeeded in the very earnest attempt they made to show what the new public health principles are and how they have become established, the one momentous matter in public health still left unsolved is this—why, why, why are not these principles observed? If we know how to do it, why is it not done?

First, because the general public does *not* know. They still believe religiously the theories that were beginning to be discarded in scientific circles twenty years ago. To any one who has discussed these subjects before lay audiences it becomes most evident that people the most refined and educated still believe, concerning public health, almost the same things that the most ignorant hold. So long as these beliefs control public opinion, so long will public health lag far behind other advances. Four of the most common fallacies the writer's experience of public discussion has elicited are illustrated here, and the reader may easily test his own state of knowledge by asking himself what answers he would give to the questions here presented:

1. If the disease germs are not evolved afresh

from dirt or decomposition, but are descendants of their forefathers, where did the first disease germ come from?

We do not know. Where did the first wheat come from? Or the first horse? We know that we can get no wheat *now*, except from wheat, nor horses except from horses. These germs are plants or animals, exactly as wheat or horses are. That they are tiny no more changes this law of descent than does the enormous size of a whale or of a redwood tree. "All life from life" holds true in nature through the whole scale, from germ to human beings. Besides, under the microscope, we *see* the germs "descending" from their forefathers.

2. If dirt does not breed disease, then why are dirty people more subject to disease?

Dirty people are no more subject to disease than clean. Infection, if it reaches either, may yield disease in either; if it reaches neither, neither will suffer. If an infectious disease enters a household, the dirtiest people will not spread it, despite their dirty habits, *if they avoid the one specific "dirt"* (the discharges of the patient) which alone is harmful; the cleanest people will not fail to catch it if, in their general cleanliness, they neglect that same specific "dirt." True, dirt and carelessness and disorder offer some indication whether or not the people who show these characteristics would have the sense, or take the trouble, to avoid the one dangerous "dirt," should it appear. On the other hand, cleanliness, thrift, and system indicate characters likely to handle infectious "dirt" with the same care they show in other matters. But the dirtiest people who make the proper efforts to avoid infection can and do many times escape, remain-

ing as dirty as they please in other ways. The cleanest people who neglect or do not know the methods can and do suffer.

3. If you tell people "dirt" does not breed disease, you are praising dirt — upsetting all the careful uplift all the best people have attempted for many, many years.

Suppose a *water*-pipe is leaking in your house, flooding the floors and damaging everything. Suppose that when the plumber is hurried to the rescue, he tests the *gas*-pipes, finds a leak, stops it, and tells you all is well. What would you say? True, the *gas* leaked; it was right to stop it; but the *water* goes flowing on! Suppose to your objections he replies: "But think how bad the effect would be on our campaign against gas-leaks, if we failed to urge that gas-leaks must be stopped, whether they stop the water-leaks or not. If I admitted that gas-leaks have no connection with the water-leaks, you would let the gas flow on. I *must* make you believe the water-leak depends on the gas-leak, else you won't fix the gas-leak." Stopping gas-leaks cannot help water-leaks nor *vice versa*. Reducing disease will not make people "clean," nor will making people "clean" reduce disease; only the one "cleanliness" of avoiding infected discharges will gain this end.

4. Why do you talk so much about disease? Teach healthy living, keep the body strong, well clothed, and well fed, and you need not fear disease, especially infectious disease, at all.

This is a fallacy so widespread that even physicians teach it, in good faith, without considering that they themselves would never let their own children, never mind how healthy, run with a measles case, or mumps, or scarlet fever, un-

less their children had had the disease before. If the teaching is not good enough for practical application to physicians' children, it is not good enough for public health.

You see, everyone knows that children who have had measles very seldom take it a second time, and this without regard to whether they are robust or sickly, healthy or weak. Everyone knows, too, that children, healthy or sickly, who have not yet had measles, almost invariably catch it if they are exposed. Practically, the same is true of scarlet fever, mumps, whooping cough, smallpox, chickenpox, etc. It is not so true of tuberculosis, diphtheria, or typhoid, since those who have had diphtheria or typhoid or tuberculosis may get it again; although again without regard to whether they are healthy or sickly.

In measles and the other diseases like it, persons exposed who do not contract the disease, escape, not from good health, but just because they have within their bodies a certain antidote to the particular poison of that particular disease. Anyone can prove this to himself, if he will think a moment. If general good health were a protection against all these diseases, a child who could not catch measles, *because protected by his general good health*, could not catch scarlet fever, either, for the same general health would save him from them all. But everyone knows that the child who cannot catch measles (because he has had it) must nevertheless be guarded from scarlet fever, unless he has had that too. In brief, an attack of these diseases gives, in most persons, an immunity; that is, an antidote is formed, which then protects them from having it again. But there is a *different antidote* for each disease. Having had measles

once is excellent protection against measles, but it is no protection at all against scarlet fever or mumps or any other.

In diphtheria an antidote is formed, but often disappears again, and therefore this disease may be suffered more than once. In typhoid also an antidote is formed lasting a year or two. We know and are learning more of this antidote against typhoid. We do not know yet much about that which perhaps protects against tuberculosis.

Now, no one dreams that the antidote for measles can be developed by diet, exercise, or clothing; by fresh air, drugs, or anything in fact, except by suffering an attack from the measles germ. Nor can anyone seriously believe that the antidotes for typhoid, or chicken-pox, etc. (except that in smallpox vaccination takes the place of an attack of smallpox) can be developed except by equivalent means. If "good health" will not protect against any of these diseases, taken *one by one*, how can "good health" protect against *all* of them taken together?

So we might deal with fallacy after fallacy, all based, however, on two.

The first of these is that infectious diseases come from "general bad surroundings." The truth is they come solely from certain germs growing in the body, and practically the only sort of "bad surroundings" which cause infections is association with one of these infected bodies or with its discharges.

The second great basic fallacy is this, that "general good health" protects against infection. The truth is, that the only true protections against germs we know are, first and best, to keep them out of the body; and, second, to have

within the body the *special* antidote for each particular germ. We vaccinate against smallpox, but that does not save us from typhoid fever. We vaccinate against typhoid fever, but that does not save us from smallpox. If we could vaccinate against every disease (as perhaps some day we shall be able to) we would be safe, despite the germs, at least while the protection lasted, and after that we could vaccinate again.

But how much better to avoid the germs which means avoiding the persons in whom they are; and then we would never need any sort of vaccination!

Surely, the thing to do for one's own sake, and still more for the sake of our associates, is to find the infected persons, or animals, that alone can cause disease in the true sense, and keep them so protected while the danger lasts that they will do no harm. Then, when their stock of germs is dead and done with, remove all the restrictions.

You will say that that is only old-fashioned quarantine. It is, in principle, but modern practice changes it so completely that, practically speaking, new-fashioned quarantine differs from old as much as motor cars differ from camels. In the first place, old-fashioned quarantine did not pick out all *dangerous persons*, but took the sick who form but *part* of the infected, and also took the well who were found with the sick, including thus some who were not infected, and kept all these practically in prison, in their homes, or ships, or wherever else they were staying. Thus, not alone were many infected persons overlooked and many uninfected persons wrongly held, but also the disease spread oftentimes

from those infected who were in the net to the uninfected who were kept in with them, so that old-fashioned quarantine while it protected the community but partially, meant often poverty, disease, and death to those caught in its toils. No wonder the very name of quarantine makes many people shudder.

New-fashioned quarantine is not a blanket method, blunderingly catching in its blindfold grip both sick and well, th harmless and the harmful, indiscriminately. New-fashioned quarantine requires definite detailed knowledge applied with care and patience, not mere force.

Now, everyone wishes infectious persons handled so that infection ceases. Even the infectious do not wish to spread their own infection. The thing that chafes and riles the average person is not restriction but unjust restriction: either restriction of non-dangerous persons, or restriction of some of the dangerous only while others just as dangerous go free.

No mother minds the exclusion of her infectious child from public school, if her neighbor's infectious child is excluded also. Every physician would report his cases if every other physician did so too.

Here then is the solution, based on human nature, on common sense, and on the most scientific knowledge. Find, through the methods of epidemiology, of the laboratory, and of the vital statistician, skilfully combined by experts, these dangerous persons, whether sick or well—these only dangerous persons, those who carry on them or in them, germs of infectious diseases. Set all others free, but keep these persons, not in old-fashioned quarantine, but under such control that their discharges will not pass to others;

and do not measure the length of that control by fixed time limits, blind and unjust as quarantine itself, but measure it wholly by the length of time the germs remain in the body. The moment that the germs have left that person, he is no longer harmful and he should be freed.

To do this properly means intimate attention and supervision of infectious persons by men who know their business and do nothing else. If one such man to every 20,000 persons began, tomorrow, everywhere, his work, infectious diseases in ten years, would have vanished and become mere history.

SUMMARY.

This, then, is the conclusion. The old ideas have passed; the new are no longer theories but facts; the methods they require are not untried; they have been practiced for years in Minnesota. The details are worked out, the field is ready, the scope and cost are known. All that remains is to apply the methods developed in this state to all infections, thus wiping them all out, once and for all. The way is clear, what remains is to follow it; the method is known, what remains is to carry it out; the thing we, as a race have hoped and desired and prayed for, for centuries past, can be done; all that remains is to do it.

Each generation of Minnesotans pays now for infectious disease two hundred million dollars and *has the diseases, too!* Why not pay one-tenth this sum and rid ourselves of all of them forever?